

# ECO119

## STATA assignment 3

July 2021

### 1 Real GDP and Money Supply

In this assignment we will look at the dynamics of Real GDP and Real M2 Money stock. Your task is to plot the same time series from FRED data base for 1960-2021 to mainly see what happened with those variables during 2020 pandemic year. We will use these variables from FRED

- GDPC1
- M2REAL

We will use [this command](#)

- [tsline](#)
- [date\(\)](#) and [year\(\)](#)
- [qofd\(\)](#)
- [tsset](#)
- [label](#)
- [format](#)
- [sum](#)

- `drop/keep`
- `lpattern`

## 2 Task

1. download data on Real GDP and Real M2 money stock from FRED data base making sure both time series are in quarterly format
2. load data on Real GDP and Real M2 money stock using *import* command
3. convert date variable using *date()* command
4. format converted date variable i.e. show new date variable in Stata default date format like 19jun2014 using *format*
5. keep quarter year from converted date variable i.e. generate year-quarter variable name that variable time using *qofd()* and *format %tq*
6. set the time for the graph using *ttset* specifying *quarterly* option
7. generate a year variable using *year()* and keep observations for year above 1959
8. relabel variables to "Real GDP" and "Real Money M2 Money Stock"
9. check the summary of the time variable using *sum* to see min and max values for the time variable
10. plot Real GDP and Real M2 money stock using *tsline* make sure their colors are set to be navy and gold and use *xlabel()* to vary x-axis between min and max values of the variable time (figure out the the step in *xlabel()* command so years are presentable and year 2020 depicted on the graph)

11. include , *format(%tqCY)* option in the *xlabel()* so quarters are omitted from the x-axis
12. draw a dashed vertical line at year 2020q1 using *tline* specifying line to be gray with 20% opacity
13. Put a title to be Real GDP and Real M2 using *title* specifying font to be of a medium size
14. save dta file using *save*
15. Download the same variables for the same time period but changes the units to Percentage change and do from 2 to 13 points above for the new data set but
  - label variables as "Real Money M2 Money Stock growth" and "Real GDP growth" respectively
  - change the *ylabel* in *tsline* to the range -10 to 20 with a step of 5
  - put a horizontal line at 0 with *yline*
  - change *tline* opacity from 20% to 60%
  - add the word growth to the title
  - save dta file using *save*

### 3 Draw a conclusion

Based on the graphs you constructed, describe what happened to real GDP and what was the response of the FED in terms of Real M2 money stock during 2020 pandemic year

## 4 What to submit

Submit the following

1. The graph you obtained in STATA and conclusion that you drew based on the graph
2. STATA do file
3. saved dta file